

New Distributional Records for the Water Scorpion *Nepa apiculata* in the Coastal Plain of Georgia and Virginia

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The extant water scorpion (Heteroptera: Nepidae) fauna of the continental United States and Canada is comprised of 13 species in three genera (*Curicta*, *Nepa*, *Ranatra*) (Polhemus, 1988). The genus *Nepa* is monotypic in North America, with the single species, *Nepa apiculata* Uhler 1862, restricted to eastern North America. It is easily distinguished from all other North American water scorpions by its short and robust body shape (Hungerford, 1922; Sites & Polhemus, 1994).

In a recent synoptic treatment of the water scorpions of the United States and Canada, Sites & Polhemus (1994) stated that *N. apiculata* is distributed throughout the northeastern United States (and along the southern border of Canada from Quebec as far west as Manitoba) west to North Dakota and Oklahoma, and south to Georgia. The range map in Sites & Polhemus (1994) restricted the distribution of *N. apiculata* in Georgia to the extreme northwestern corner of the state, although the exact collection locality of the lone record from this state (first reported by Van Duzee, 1917) is unknown (J. T. Polhemus, pers. comm.), and our efforts to find this specimen were futile. A disjunct record for extreme southern peninsular Florida (Cape Sable, specimen in USNM) was discounted by Sites & Polhemus (1994) because this locality is widely separated from the remainder of the known range of this species, and the identity of this specimen (an early instar) is tenuous.

The distribution map for *N. apiculata* in Sites & Polhemus (1994) portrays its range in the Atlantic Coastal Plain as extending south only to extreme southeastern



Figure 1. Distribution of *Nepa apiculata* (dashed line) as plotted by Sites & Polhemus (1994). The dot shows the general location of the two Georgia records reported in this paper.

Virginia. Bobb (1974) commented that *N. apiculata* is "decidedly rare in the Southeastern States" and stated that the only specimen known from Virginia was collected on 13 October 1973 in Gloucester County by A. G. Michael of Old Dominion University (specimen in ODU collection). Bobb (1974) was apparently unaware of the existence of three additional specimens of *N. apiculata* in

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the USNM that were taken in Gloucester County (presumably at the same unspecified locality) on this date (R.L. Hoffman, pers. comm.), although he did note that specimens from Patuxent and Plummer's Island, Maryland were in this collection. An additional specimen from the latter site is in the Cornell University collection (J. K. Liebherr, pers. comm.). Polhemus (1988) failed to include Virginia among the states from which *N. apiculata* had been documented, whereas the range map in Sites & Polhemus (1994) suggests that it occurs statewide. However, to our knowledge, the only other Virginia collection made prior to publication of the latter paper consists of an adult female obtained by John T. Polhemus on 15 April 1990 from a spring seep along the South Fork of Quantico Creek in Prince William Forest Park, Prince William County (J.T. Polhemus, pers. comm.; specimen in JTP personal collection).

During the 1996 field season, we collected *N. apiculata* from two sites in the Coastal Plain of Virginia, as well as from two sites in the Coastal Plain of Georgia, the latter collections representing a significant southward extension of the known distribution for this species (Figure 1). On 30 March 1996, DJS collected an adult *N. apiculata* from within a water-soaked log in shallow water in a bald cypress (*Taxodium distichum*)-tupelo gum (*Nyssa aquatica*) swamp along the Blackwater River near the County Route 603 crossing, 9.0 km ENE Waverly, Sussex County, Virginia. SMR collected an immature specimen of *N. apiculata* on 8 August 1996 while dipnetting in aquatic vegetation along the edge of the Blackwater River in a bald cypress-tupelo gum swamp, 5.3 km NE Ivor, Southampton County, Virginia. The latter site is approximately 25 km downstream of the former locality. Both of these specimens have been deposited in the Virginia Museum of Natural History, Martinsville, Virginia.

The new *N. apiculata* records documented for Georgia (specimens deposited in the University of Georgia Museum of Natural History) are from sites in the Altamaha River drainage and are in the lower Coastal Plain. On 3 May 1996, DJS collected an adult specimen at night from a small stream which flows through bald cypress-tupelo gum swamp on the north side of the Altamaha River at Ga. Rte 121/144, 18.0 km SW Glennville, Tattnall County, Georgia. A single adult, also found at night, was taken by DJS on 20 May 1996 from leafy detritus at the edge of the Ochopee River at Hwy. 178, 17.5 km W Glennville, Tattnall County, Georgia.

Like most nepids, *N. apiculata* prefers lentic situations. It has been reported to inhabit the muddy shorelines of spring-fed bodies of water (Sites & Polhemus, 1994), shallow, grassy slow-moving streams (Torre-Bueno, 1923),

debris in streams (Hilsenhoff, 1984), acidic seepage swamps (reported as "bogs" by Ferris & Harp, 1982), sparse to dense vegetation (Torre-Bueno, 1905), and mud

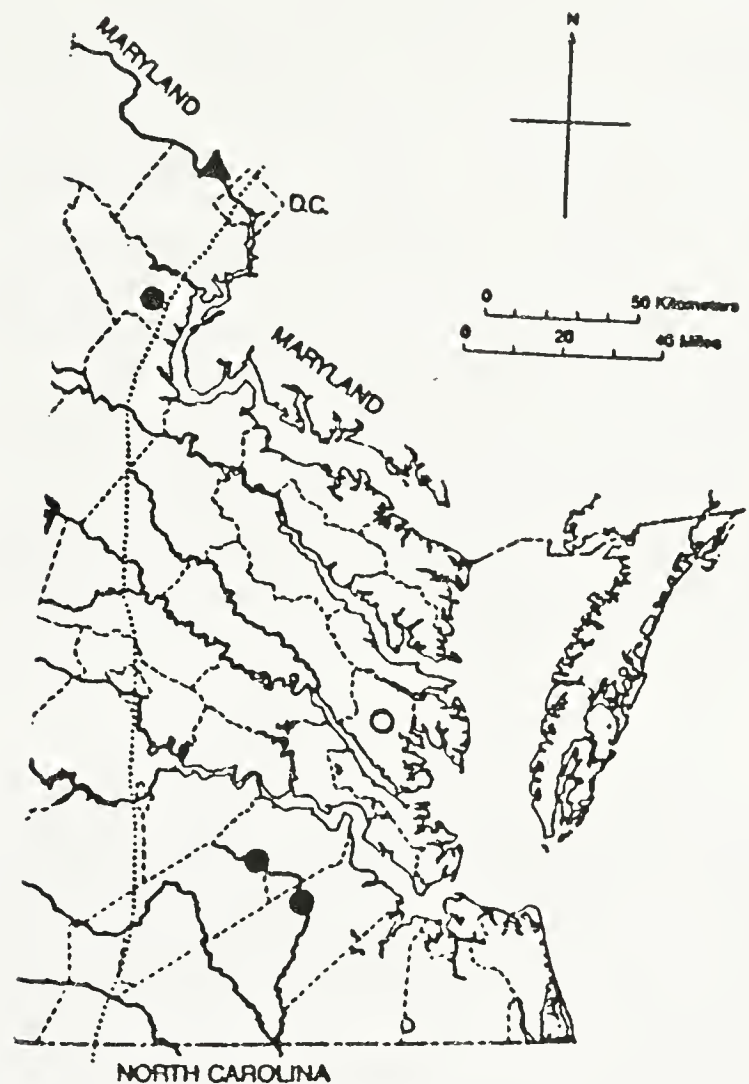


Figure 2. Distribution of *Nepa apiculata* in Virginia. The dashed line indicates the Fall Zone separating the Coastal Plain and Piedmont physiographic provinces. The open circle denotes an unspecified locality in Gloucester County and the triangle indicates the location of Plummer's Island, Maryland.

and debris in shallow swamps and ponds (Sanderson, 1982). It has also been found under stones in shallow water (Torre-Bueno, 1923). Hungerford (1919) described *N. apiculata* as "mud-loving", while other investigators have determined that this species is able to estivate in mud (Larimore et. al., 1959), and that females oviposit in mud (McPherson & Packauskas, 1987).

Our recent collections document only the third and fourth known sites for *N. apiculata* in Virginia (Figure 2), and reveal that the range of this water scorpion extends south in the Atlantic Coastal Plain to at least the Altamaha River, Georgia. Mud-bottomed still water habitats (floodplain swamps, oxbow sloughs) are extensive at/near each of the new collection sites for *N. apiculata* that we detail in this note. The putative rarity of *N. apiculata* in

the southeastern United States (Bobb, 1974) may be attributable to the cryptic appearance and habits of this species. It is difficult to collect using traditional aquatic insect net methods, as specimens blend well with leaf litter and may feign death when captured (Sites & Polhemus, 1994). Hungerford (1919) stated that this species is "usually found in raking out mud and trash near the water's edge." It should be noted that three of our four specimens were collected by hand; the fourth was in fact taken dipnetting, but the collector was looking carefully (specifically) for *N. apiculata* specimens as he searched each net haul. Other collectors have also had success capturing this species by hand (J.T. Polhemus, pers. comm.). Given the vast amount of blackwater stream/floodplain swamp habitat present in the Coastal Plain of Virginia and southeastern Georgia, as well as in the Carolinas, it is likely that additional sites remain to be discovered for *N. apiculata* in the southeastern Coastal Plain.

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